

Draft Final Report SP-T9 Recreation and Wildlife

**OROVILLE FACILITIES
RELICENSING
FERC PROJECT NO. 2100**



Study Objectives

- ▶ Identification of on-going and future recreation-related direct and indirect impacts to wildlife and plant communities.
- ▶ Identification of opportunities to reduce or eliminate recreation-related impacts to wildlife and plant communities.



Background Information

- ▶ The project area is one of the major recreation areas in Northern California with an estimated 1.7 million-visitor days use per year
- ▶ Recreational use in many forms occurs throughout the year with peak use occurring between May and September. These recreational uses include camping, boating, fishing, hunting, bird watching/nature study, horseback riding, hiking, biking, swimming, sailing, and picnicking.



Literature Review

- ▶ Literature review indicates that recreational activity can serve to:
 - reduce populations of some wildlife species
 - reduce species productivity
 - modify wildlife species occurrence and densities
 - attract nuisance species or non-native species
 - increase disturbance/displacement
 - increase predation rates
 - increase habitat degradation
 - reduce physical condition
 - cause direct mortality



Need For Study

- ▶ The results of this study are required for:
- ▶ CEQA and NEPA compliance.
- ▶ State and Federal ESA compliance
- ▶ Results of this study may lead to protection, mitigation, and enhancement measures incorporated into the license or development of conservation measures within the Section 7 ESA consultation process.



Task 1 Methods

- ▶ GIS mapping (SP-T4) to allow wildlife habitats associated with each recreation facility or area to be identified.
- ▶ Use of the CWHR classification system allows use of the CWHR database to predict wildlife species occurrence associated with mapped wildlife habitat types including those associated with major recreational facilities or areas.



Task 1 Results-CWHR Modeling

- ▶ CWHR modeling indicate that the habitats present within the project area could support up to 340 vertebrate wildlife species including 13 amphibians, 22 reptiles, 241 birds, and 64 mammals
- ▶ CWHR modeling predicts that wildlife habitats associated with major recreational facilities can support up to 189 vertebrate wildlife species including 3 amphibians, 5 reptiles, 155 birds, and 26 mammals



Task 1 Results-CWHR Modeling

- ▶ CWHR modeling of habitat modifications associated with recreational developments around Lake Oroville indicate potential habitat losses for wildlife species dependant upon
 - ▶ tree cavities (69 species)
 - ▶ snags (91 species)
 - ▶ woody dead and down material (64 species)
 - ▶ shrub understory (247 species)



Task 2 Methods-ESA Species

- GIS mapping of special status species habitats within and adjacent to recreational facilities or areas was used to identify potential recreation/wildlife conflicts and to design minimization and avoidance measures for State and Federal ESA compliance.



Task 2 Results-ESA Species

- ▶ Twelve wildlife species protected under the State or federal Endangered Species acts may occur in the project vicinity
- ▶ Potentially suitable habitat for all of these species is present within the study area
- ▶ Conservation measures were developed during the Federal ESA consultation to avoid or minimize potential recreational impacts to ESA species (or their habitats) including bald eagle, VELB, giant garter snake, and vernal pool invertebrates



Task 2 Results-Bald Eagle

- ▶ Nest territory management plans for the three existing nest territories were developed in consultation with USF&WS
- ▶ These plans include measures to minimize recreational impacts on nesting bald eagles including:
 - Retain seasonal recreation closures in the vicinity of nesting bald eagles
 - Maintain signage, patrol, and enforcement of bald eagle nest territory seasonal closures
 - Periodically reevaluate the effectiveness of conservation measures designed to minimize recreational impacts to nesting bald eagles
 - Conduct annual nest surveys to identify new or previously unknown bald eagle nest territories
 - In consultation with USFWS and DFG, develop and implement conservation measures to protect new nest territories from recreational disturbance



Task 2 Results-VELB

► Conservation measures developed minimize and avoid recreational impacts to valley elderberry longhorn beetle include:

- Avoid recreational development or expansion into areas of valley elderberry longhorn beetle (VELB) habitat
- Minimize ORV use in areas containing VELB habitat
- Consider installation of fencing or barriers adjacent to high recreation use areas within VELB habitat
- Consider additional road closures to limit ORV damage to VELB habitat
- Periodically reevaluate the effectiveness of VELB conservation measures designed to limit recreational impacts to VELB



Task 2 Results-Giant Garter Snake

- ▶ Conservation measures developed to minimize or avoid recreational impacts to giant garter snake include:
 - Avoid recreational developments within giant garter snake habitat
 - Provide educational signage at key recreational facilities to limit take associated with the public's "fear of snakes" behaviors
 - Limit areas of dog trial training within giant garter snake habitat during the snake's active period (March 1 through October 31)



Task 2 Results-Vernal Pool Invertebrates

► Conservation measures developed to minimize or avoid recreational impacts to vernal pool invertebrate habitats includes:

- Retain ORV closures in areas containing vernal pool habitats
- Maintain or increase signage, patrol, and enforcement to limit ORV use in vernal pool habitats
- Maintain fences or barriers to ORV use in vernal pool areas
- Periodically inspect fences and barriers to ORV use and repair as needed
- Periodically inspect and report on the effectiveness of conservation measures designed to minimize ORV impacts to vernal pool habitats
- Avoid recreational development, expansion, or use within vernal pool habitats



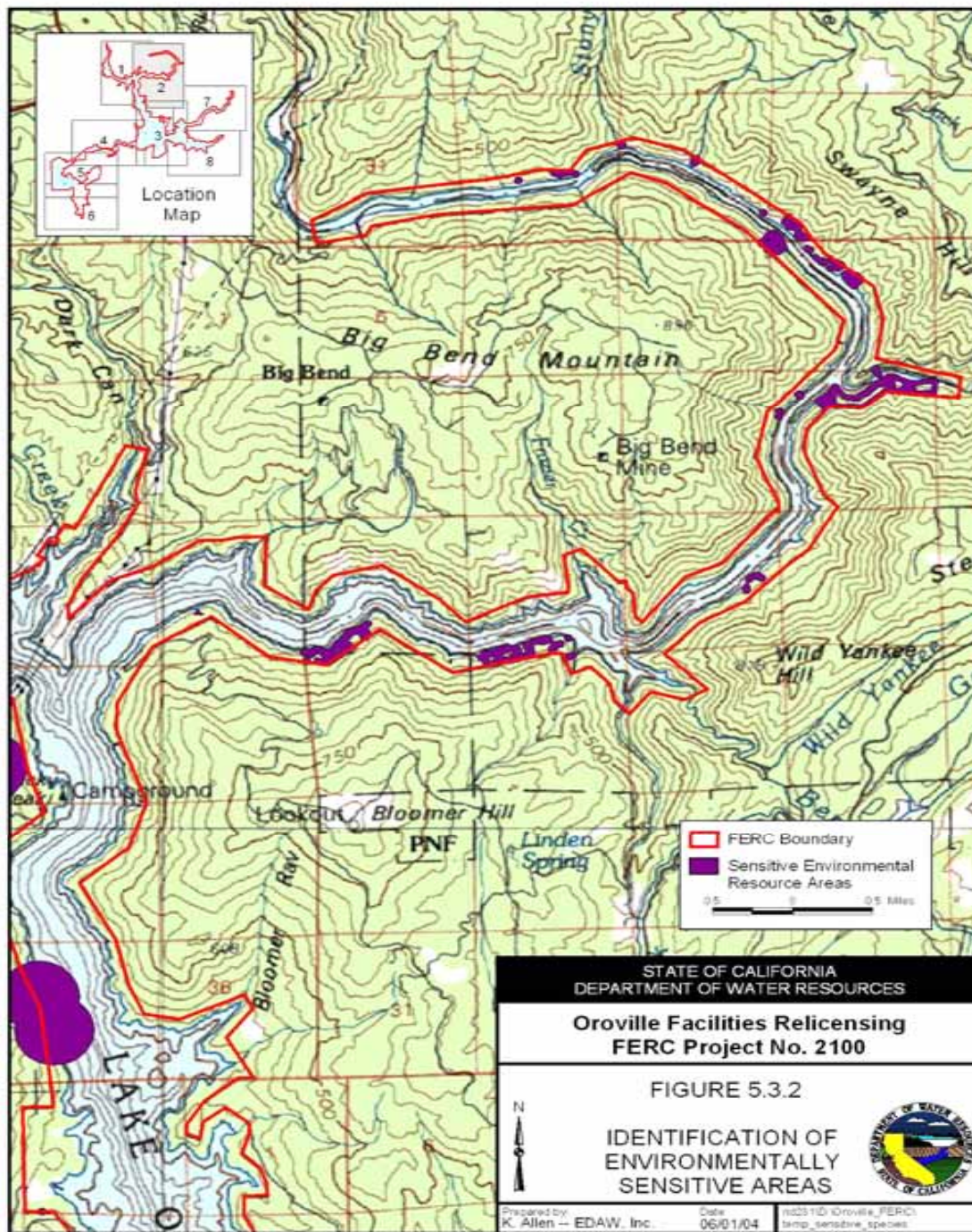
Task 3 Methods

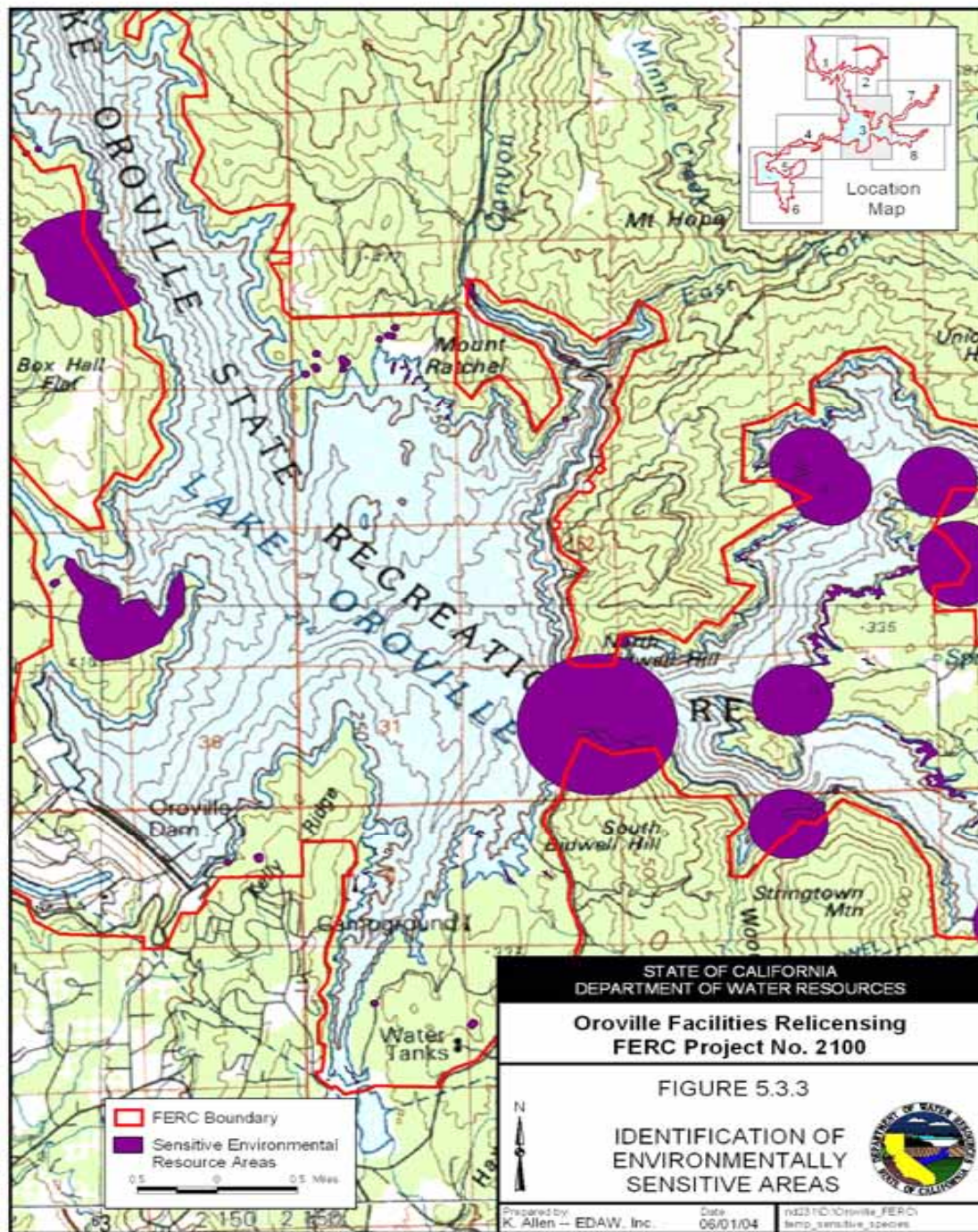
- ▶ Task 3 involved identification of current and potential future recreational developments and associated maintenance practices.
- ▶ Future recreational developments have not been identified at this time and are unlikely to be identified prior to Settlement.
- ▶ However, both the Environmental Work Group and the Cultural Resources Work Group have provided the Recreation and Socioeconomic Work Group with resource sensitivity maps. These maps identify areas where, based on current information, future recreational development can occur with minimal risk to environmental or cultural resources.

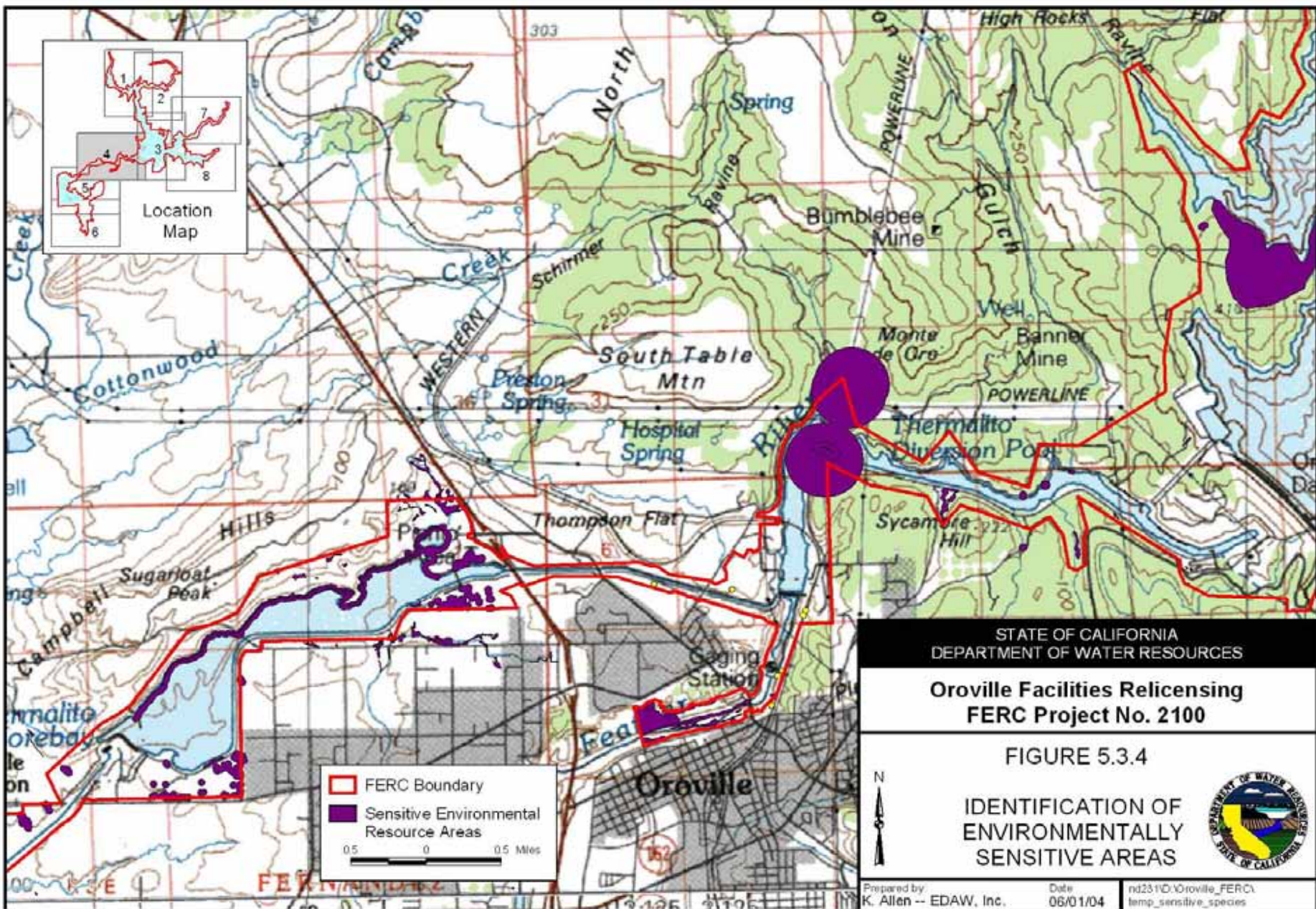


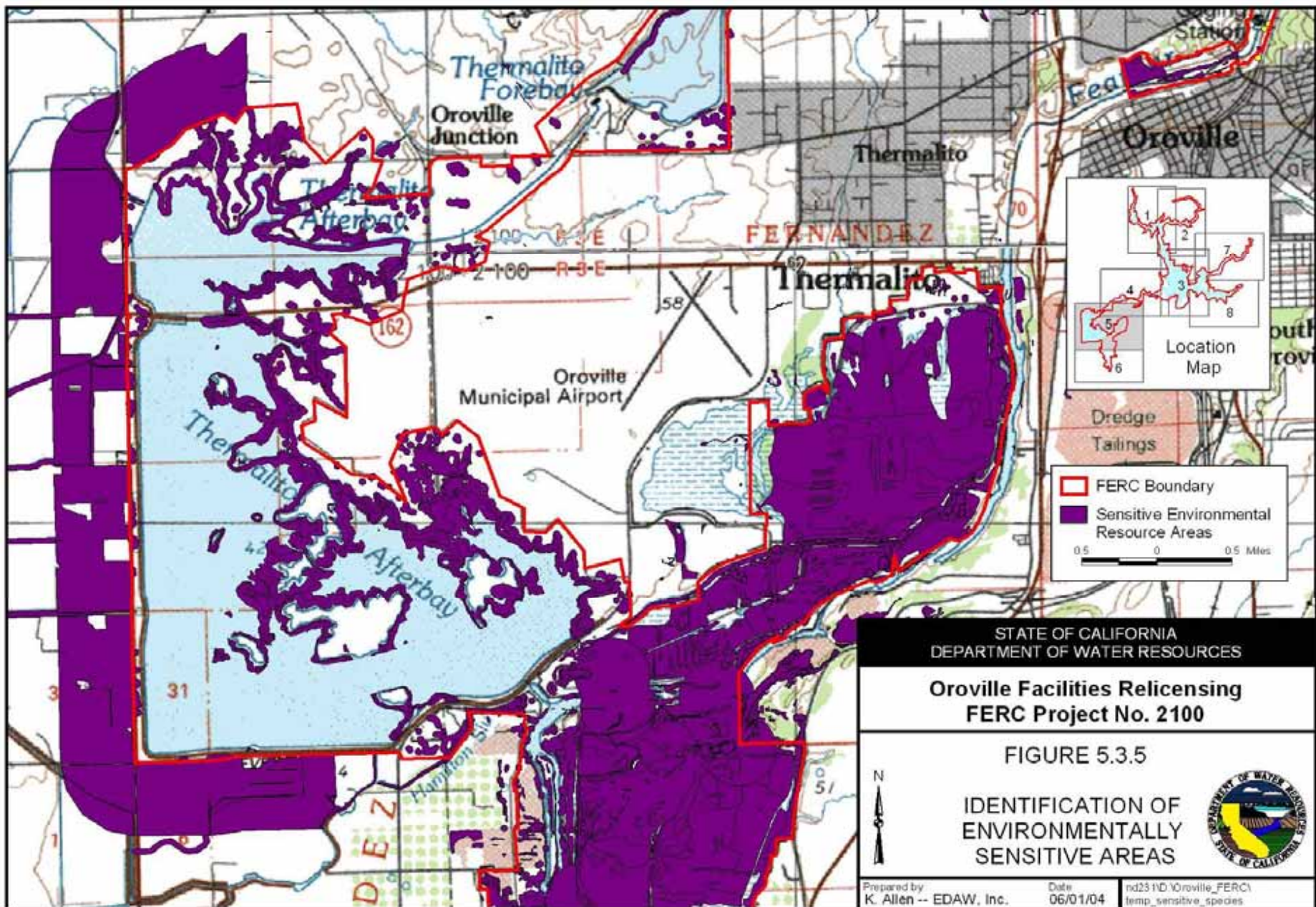
Task 3 Results-Sensitive Habitat Mapping

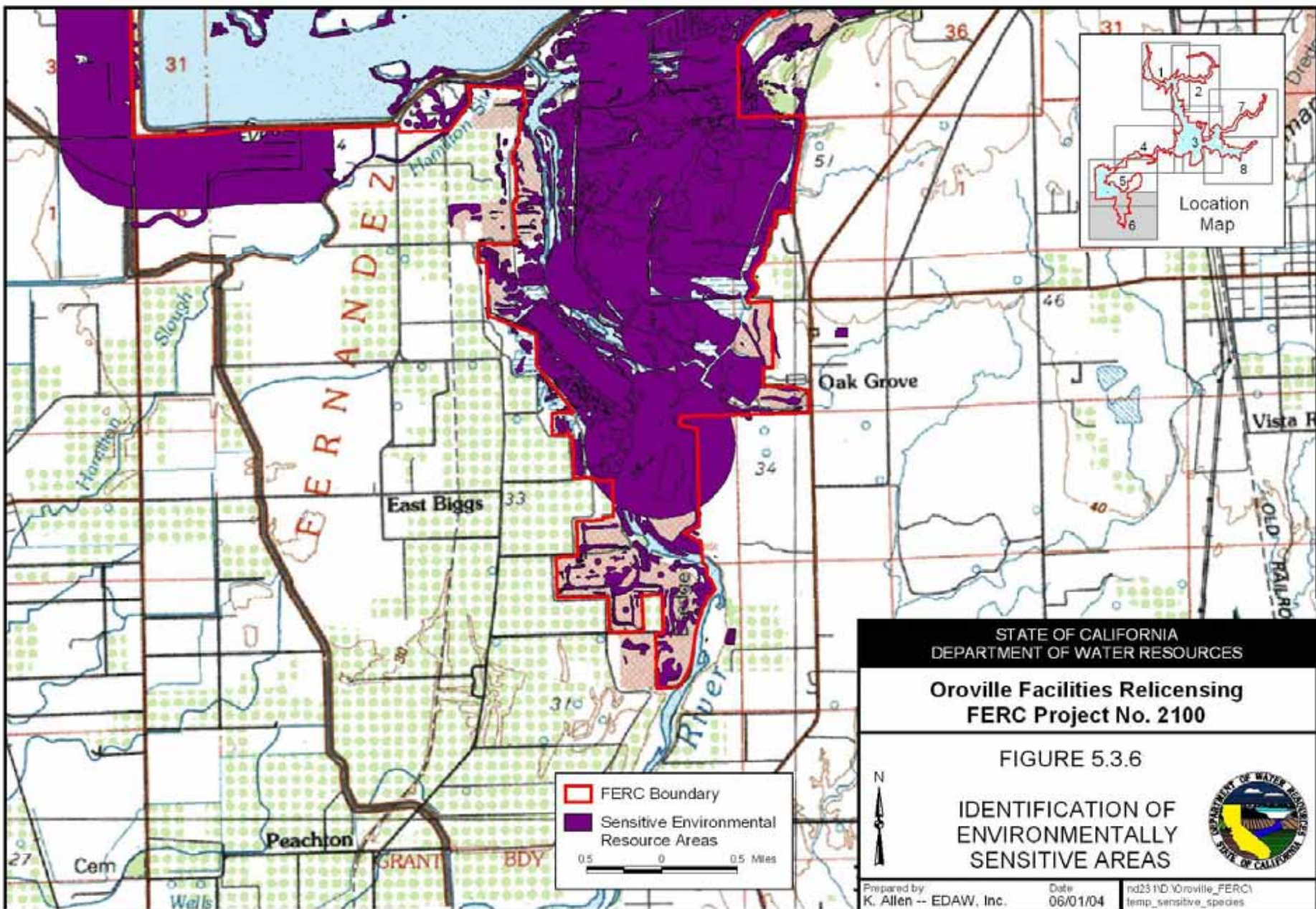
- ▶ Mapping of sensitive plant and animal habitats includes:
 - State and Federal ESA habitats
 - State and Federal Species of Concern habitats
 - Freshwater emergent wetland and riparian habitats

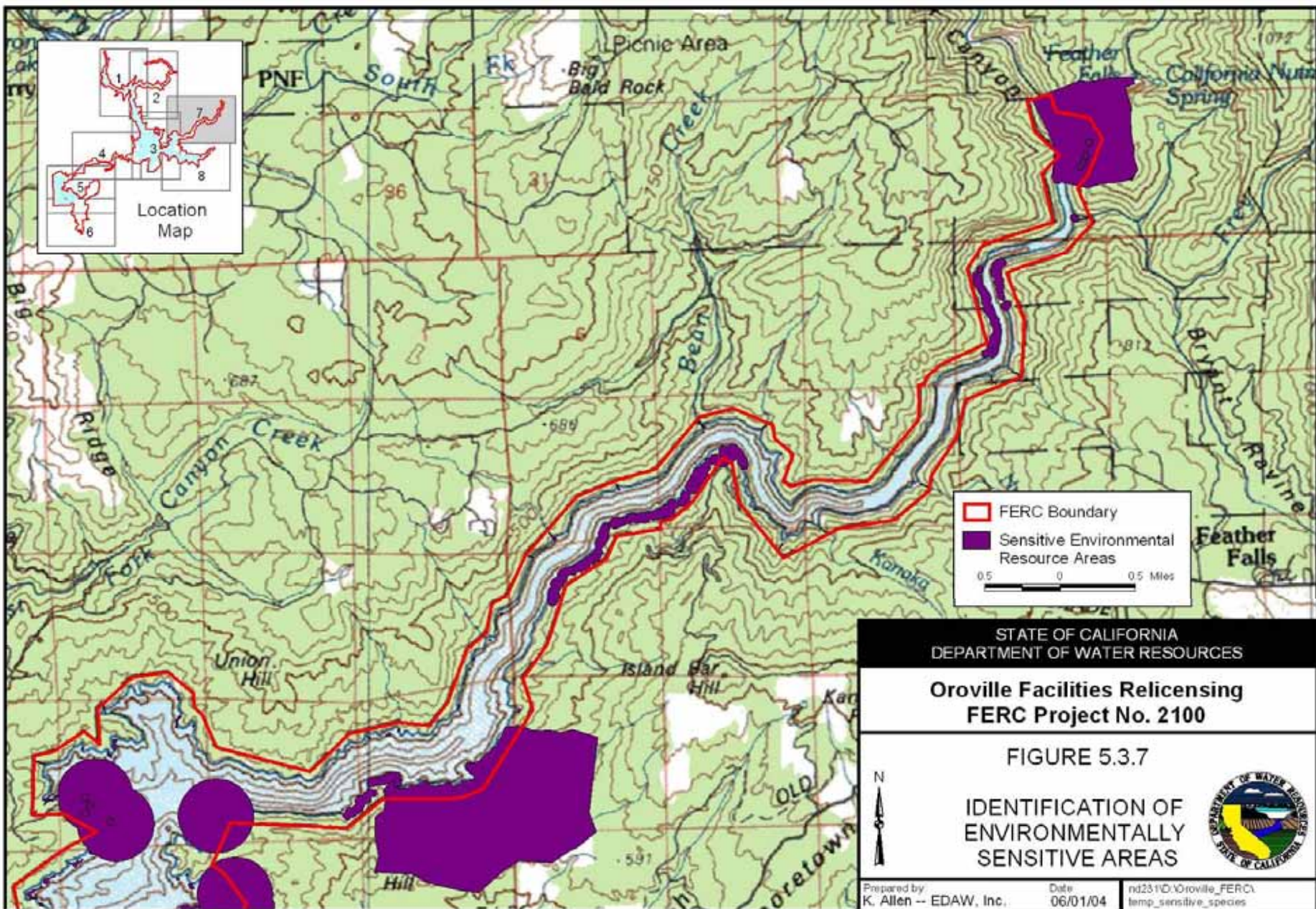












Task 4 Methods

- ▶ Task 4 involves GIS mapping of existing recreation developments and associated maintenance practices identified in Task 3. Current recreational facilities and associated maintenance practices were mapped in Relicensing Study Plan T1.
- ▶ Acreage associated with general recreational facility were calculated.

